

SAUROSITUS AGAMAE, N.G., N.SP. A
 FILARIOID PARASITE OF THE LIZARD
AGAMA COLONORUM

BY

J. W. S. MACFIE

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This worm is a common parasite of the lizard *Agama colonorum* in West Africa, the adults being found in the mesentery and the embryos in the blood. It may be noted here that the distribution of filariasis of lizards in West Africa is not uniform, for whereas two species are commonly found at Yaba, near Lagos, only one species, namely that referred to above, has hitherto been found at Sekondi (Dr. J. F. Corson), and none has yet been discovered at Accra, although the lizards there have been repeatedly examined at all seasons of the year.

SAUROSITUS AGAMAE, n.g., n.sp.

Body thread-like, colourless, tapering slightly towards the posterior extremity. Anterior extremity rounded, bearing two lateral and four sub-median papillae which, however, are very small. Cuticle smooth, not striated transversely, and without either cuticular bosses, annulations, or spiral thickenings. Mouth terminal, small, slightly projecting, without lips. Oesophagus short, divided into two unequal portions, the anterior short and narrow, the posterior three or four times as long, broader, not dilated at its junction with the intestine. Nerve ring well developed. Anus sub-terminal; tail short and blunt in both sexes.

Male. Shorter and more slender than the female; length (three specimens) 42 mm. to 55 mm., breadth at the middle of the body about 200 μ . Posterior extremity coiled in a close, flat spiral. Cloacal opening about 15 μ from the tip of the tail. Tail short and blunt; caudal alae absent. There are four pairs of pre-anal papillae,

but no para-anal or post-anal papillae. Spicules two, sub-equal, about 100μ to 130μ in length; gubernaculum small.

Female. Length (three specimens) 80 mm. to 140 mm.; breadth at the middle of the body about 300μ . Posterior extremity somewhat attenuated and terminating in two more or less distinct lobes, but without papillae. Rectum atrophied, anal orifice absent. Vulva situated just posterior to the oesophagus. Opisthodelphes. Ovoviviparous. Embryos in the blood.

Microfilaria. The embryos, which have been briefly described on a previous occasion (*Annals of Trop. Med. & Parasit.*, Vol. VIII, pp. 456-458, and Pl. XXV, figs. 1, 3, and 4, 1914), are enclosed in an ample sheath. The cuticle is striated. The nuclei are large, two or three abreast in the middle of the embryo, and almost completely filling the greater part of the body. The lengths of thirty specimens measured ranged from 106μ to 168μ , average 135μ . The breadth at the widest part is about 3μ . The body does not taper towards the anterior extremity and is bluntly rounded at its end. There is usually a small area, about 4μ long, at the anterior extremity which is free from nuclei. The nerve ring is situated about 28 per cent. of the length of the body from the anterior extremity: it is a narrow, usually oblique break. The excretory pore, GI cell, and anal pore are situated respectively 41, 74, and 88 per cent. of the length from the anterior extremity. The body tapers posteriorly to a slender tail which terminates somewhat bluntly and is occupied by nuclei to its extremity.

In addition to the embryos there occur in the blood numerous small bodies which appear in stained specimens as I-shaped structures surrounded by a cuticular envelope. These bodies are also present in the uterus of the female, and are perhaps abortive eggs.

The embryos in the blood do not exhibit periodicity and were found to be present in approximately equal numbers in blood taken from the tail at 5 a.m., 10 a.m., 5 p.m., and 10 p.m.

The distribution of the embryos in the body was studied in a lizard which had been sent to Accra from Sekondi and had died one afternoon at about 4 p.m. soon after its arrival. The tissues of this lizard were preserved and cut into sections 0.014 mm. thick, and in these sections the filarial embryos in fifty microscope fields, each 100μ square, were counted with the results shown below:—



FIG. 1. *Saurositus agamae*, n.g., n.sp. A.—Anterior extremity of female, lateral view. $\times 45$. B.—Posterior extremity of female, ventral view. $\times 150$. C.—Posterior extremity of male. $\times 60$. D.—Same, lateral view. $\times 150$. E.—Posterior extremity of male, ventral view to show the spicules. $\times c. 300$.

TABLE I

Tissue	Filarial larvae in 50 fields
Lung	152
Liver	51
Spleen	28
Blood (sinus venosus)	5
Heart muscle	1
Muscle at base of tail	0
Testis	0

In the absence of accurate data, which are not available, as to the proportion of the various organs which is composed of blood, it is not possible to decide to what extent these figures indicate a concentration of the embryos in certain organs. With regard to the lung which is little more than a trellis for blood vessels, however, a study of the sections showed the embryos much kinked and twisted, and it was clear that such relatively large and long parasites could not flow freely through the vessels with the blood stream, and that, therefore, the lung must act as a filter, allowing the blood to pass more readily than the filarial embryos.

DIAGNOSIS. It is necessary to erect for this parasite a new genus the characters of which may be defined as follows:—Mouth without lips. Anterior extremity rounded, bearing six small papillae, two lateral and four sub-median. Cuticle smooth. Oesophagus divided into two portions.

Male. Posterior extremity coiled into a close spiral, tail short; caudal alae absent, four pairs of preanal papillae; spicules sub-equal, gubernaculum small.

Female. Vulva near the posterior extremity of the oesophagus; anal orifice absent; opisthodelphes. Microfilariae sheathed, in the blood.

HOST. Lizard, *Agama colonorum*.

LOCALITY. Nigeria and Gold Coast, West Africa.